

Psychological Interpretation

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Preface

CLINICAL psychology today is a field beset by conflicts. Commentary appearing periodically in the *American Psychologist*, as well as the content of conferences given over to the consideration of the proper training of clinical psychologists, makes this only too obvious. At one time the conflict is seen in role-theoretical terms, between the demands of the roles of the professional and of the scientist; at another time in trait-theoretical terms, between the traits of empathy, intuitiveness, and daring on the one hand, and those of objectivity, rigor, and discipline on the other; and, at yet another time, at the level of the polite epithet, between the artist and the scientist.

At no point in either the teaching or the practice of clinical psychology does evidence of these conflicts, however they may be conceived, become more acutely apparent than in connection with the act of interpretation as this is carried on in psychodiagnosis and psychotherapy. Here, it has been my observation, the clinician striving to maintain an image of himself as a scientist becomes most uncomfortable; here his non-clinical colleague points to what he believes to be prime evidence of the irrational lapses that characterize the thought-process of the clinician and that therefore represent, at the very least, a blemish upon his scientific escutcheon.

Where conflict dwells, confusion cannot be far away. Thus we often find students, as well as some practitioners, confusing interpretation of any form with subscription to a particular theory of personality. It is not uncommon, for example, to hear an interpretation prefaced with "Well, if we want to be psychoanalytic about it, . . ." or, "Psychoanalytically, I guess you might say that . . .," when in many instances what follows bears little or no relationship to psychoanalytic theory. In other instances we find interpretation being confused with license for absurdity, obscurity, or intellectual exhibitionism.

Interpretation is the most important single activity engaged in by the clinician. Whether engaged in overtly or covertly, intentionally or unintentionally, interpretation underlies every decision, diagnostic formulation, and therapeutic act. Without interpretation, the clinician must take the data furnished him at face value; without interpretation, the clinician is not much further ahead in understanding his patient's behavior than is the patient himself; without interpretation, the clinician is at best a technician who must record whatever is presented him and then hope that some of the data will appear in actuarial tables or cookbooks so that he can find out what to do next.

Interpretation begins when we ask the question: What does this mean? It ends when we no longer feel the need to ask this question. What transpires between these two states is the subject matter of this book. I propose to treat interpretation as an activity or behavior and to determine, through an analysis of the conditions of its occurrence, its form, its content, and its consequences, those assumptions and principles that guide or are implicit in it. In taking this approach, it will be apparent to some, I am following the logical-empiricist approach of modern philosophy of science. While this is true, my purpose is not to present an essay in philosophy of science. As I pursue this approach, it will also appear to some that I am attacking many time-honored concepts and beliefs subscribed to

by clinicians engaged in interpretation. While this is true, my purpose is not to be iconoclastic.

Although I disavow iconoclasm as my purpose, I think it only fair to warn the reader, before he goes any further, that if he should subscribe to the point of view presented in this book he will do so at the peril of losing some of the rituals, beliefs, and household gods upon which he may have relied for support and reassurance. This demands courage and the reader is perfectly within his rights to ask what he may expect in return. To answer this is to give my reasons for writing this book.

Having both observed and experienced the conflicts and confusions associated with the practice of clinical psychology, and of interpretation in particular, and being involved in the education and training of future clinical psychologists, I began writing this book as an attempt at working through both my own problems in this regard and those of my students. Evidence abounds that confusion over one's identity provides fertile ground for a wide range of forms of maladjustment; if some of this confusion could be reduced it seemed clear that the professional efficiency and competence of my students, not to mention myself, would increase greatly. The question with which I began was therefore whether one can engage in psychological interpretation and still maintain his sense of integrity and self-respect as a scientist and rational human being, or whether one must be willing to tolerate some kind of schism in his perception of himself. What follows indicates, I believe, that this schism is not necessary, that there need be no break in continuity between one's functioning in the laboratory and in the consulting room, that interpretation is of a piece with experimental observation, hypothesis-forming, and theory-construction.

To be gained by acceptance of this point of view is not only an integration of an important clinical activity with other activities engaged in by the psychologist, but also a greater flexi-

bility in the use of interpretation, a greater willingness to entertain alternative interpretations in a given instance, and a greater awareness of the needs and possibilities for research in this area. Further, if the clinician in adopting this point of view should feel less alienated from his nonclinical brethren, the reverse should also be true, and so the increasing fragmentation which we see in psychology, both as a body of knowledge and as a body of scientists, may at least be retarded.

The development of islands of knowledge is a danger against which every science must guard. We find in interpretation a situation where we have islands within an island. Not only has interpretation been treated as of a different order of activity or status from other functions of the psychologist, but it is frequently taught and practiced as though there were different processes or principles involved when interpretation is applied to dreams, TAT protocols, artistic productions, and social interactions. The result is a hobbling of both the intellect and the activity of the clinician.

In this book I shall attempt to demonstrate that a single set of principles guides interpretation regardless of the material involved, and that the process of interpretation is the same regardless of the material treated by it. Thus, having grasped these principles, the student should be able to deal with dreams or conversations, TATs or figure drawings, with equal confidence. His concern is no longer that he has not learned how to interpret a certain type of content, only (a) whether the means by which the content was obtained or the content itself is likely to be *useful* for his purposes, and (b) whether his chosen theory and language are meaningful—two concerns which will be discussed at length in the text.

A word would seem in order about my intended audience. In keeping with my personal orientation toward psychology as a science and profession, I have written this book with both the clinician and non-clinician (especially at the graduate and postdoctoral levels) in mind. I would be disappointed if

the clinician read this only as a "how to" book, although I do believe that it will implement his clinical skills; if clinical psychology is ever to fulfill its promise, its practitioners must accept as one of their responsibilities the development of more sophisticated conceptualizations than now characterize the field and the development of a much more extensive and reliable body of knowledge than we now possess. For the non-clinician, my hope is that this book will suggest areas of research to which he may turn his energies. For any psychologist to see the problems involved in interpretation as exclusively clinical is a dangerously narrow view, which reflects poorly on his training and bodes ill for the entire field. It is doubtful whether any problem is ever profitably thought of as belonging within one province or another; rather, it is only as we abandon such provincialism, as we cease to see problems as belonging either to learning theory, or to psychophysics, or to clinical psychology, that we are likely to achieve anything like a creative approach to the problems of psychology.

ACKNOWLEDGMENTS

One's acknowledgments could easily read like an autobiography if he attempted to do full justice to all of those people and circumstances contributing to his work. I shall stop far short of this. Nevertheless, I feel that I must acknowledge my intellectual debt to two of my teachers, George A. Kelly and Julian B. Rotter, who each in his own way contributed to the intellectual orientation represented in this book. Whether they would subscribe completely to the form which it has taken I am not sure. But together they helped instill the idea that to be a good clinical psychologist one need not forsake the canons of science, rationality, or common sense. This I have tried to convey in these pages.

Dr. Hanna N. Colm read this manuscript through in its entirety and made many cogent criticisms and suggestions. Had

I the wisdom and sensitivity represented by these, this would undoubtedly be a better book. Dr. T. R. Sarbin also read the entire manuscript and has made many helpful substantive and editorial suggestions. Of no small help has been the interest and encouragement of my wife, Stine, who not only did much to make my syntax more conventional, but who also kept constant vigil over her husband's penchant for the prolix and the ponderous.

Lastly, without the very able secretarial assistance of Lynn Nickels this book would have been much longer and more frustrating in the making.

L. H. L.

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Psychological Interpretation

CHAPTER 1.

The Nature of Psychological Interpretation

CONTRARY to some widely propagated and widely held notions, psychological interpretation does not in any way depend upon some arcane wisdom on the part of the interpreter. On the contrary, it can be shown that psychological interpretation of all content, whether of expressive movements, dreams, projective test protocols, or interviews, follows a small number of principles that can be made explicit and that constitute the logic of psychological interpretation. Once this logic is grasped the interpretive process loses its aura of mystery and can be treated as merely another means of transforming data, which in fact it is. That is, it can then be taught, examined, and revised. Until this is accomplished—until the notion is dispelled that interpretation depends upon some obscure ability possessed only by the initiated—the psychological interpretation of content will persist as variously a source of wonder,

frustration, or ego enhancement, or as an object of suspicion, but never as an instrument of science.

There is good reason why efforts to explicate the interpretive process should meet with rather stiff resistance. For those whose prestige rests upon the claim to skill in this area, disclosure of the logic of psychological interpretation threatens at the very least to make common their once exclusive preserves. Skills possessed by many are not likely to contain the seeds of eminence. But this, as we shall see, is an unwarranted fear. For as Barzun (1959) has pointed out in another context, understanding is not identical with professional skill.

Laying out in public the principles of psychological interpretation may be not only disenchanting. Because this makes them vulnerable to empirical research, it may be also disabling. The interpreter who, for example, has been blithely inferring problems in sexual identification from certain misperceptions in the TAT may begin to feel some apprehension at continuing in this practice after studies begin to appear that cast doubt upon the validity of such inferences. As the evidence mounts, with regard not only to this interpretation but to others as well (some of it positive to be sure), he is likely to become somewhat less fluent with each succeeding protocol handed him. His statements contain an increasing number of qualifiers; flat assertions disappear from his reports. Ex-cathedra pronouncements give way to tentative inferences. Those who receive these reports may begin to think of him as less of an expert than before, as he himself may, and he may even begin to wonder whether his true talents don't lie within physiological psychology where surely no one can accuse him of casuistry.

By those who hold that psychological interpretation constitutes an art any attempt such as the present one is viewed with horror. The specter of mechanization and automation lurks in the background when we begin to speak of principles, rules, and logic. For these people this presages a devaluation

of the individual. To those who luxuriate in obscurantism and esoterica the present enterprise is undoubtedly an abomination. There is within the field of psychology, as within many other areas, a romanticism with which some are afflicted that seems to render its victims either insensitive or antagonistic to any attempt at rational analysis. To these people, little solace can be offered. To this writer's way of thinking, rationality and human dignity are not antithetical to each other; nor are science and art for that matter.

It may be well to consider briefly the types of arguments that these people are likely to marshal against an undertaking such as the present one. It is rare that one will simply say, "You can't do that!" Rather, epithets such as "atomistic," "mechanistic," and "superficial" are dusted off and thrown into the breach. A rather frequently used riposte, particularly when all else has failed, is that the clinician does something more in his interpretation of content, which cannot be stated in a few simple rules. There is nothing wrong, the argument goes, with what we have said, it just doesn't do complete justice to the interpretive process. This may be true. But it is not the issue. Something is always lost when we use words, when we abstract from the situation. This is inescapable and has been admitted as long as lovers have been trying to describe their feelings to each other and general semanticists have been exploring the vast difference between the word and its referent. But the issue is an empirical one and simply stated is this: can a set of statements be formulated about the process of psychological interpretation that will be communicable, useful in accounting for this process, and subject to verification by empirical research? It is with respect to this issue that the present work is submitted for consideration.

When do we interpret?

In understanding the nature of psychological interpretation it will be helpful to consider it as a kind of behavior

engaged in at certain times and not at other times, and to ask what the common characteristics are of those times when it is engaged in. By setting a behavior into some context, by noting consistencies in the contexts or patterns of instances in which it occurs, we are able to make reasonably good guesses about the purposes it fulfills or is presumed to fulfill. By classifying psychological interpretation as a behavior we are implying that it is observable, that it has certain antecedent and consequent conditions which may be worthy of consideration, and that it is only one of several kinds of operations or behaviors engaged in by the psychologist. Therefore we might also ask when it is that the psychologist engages in this operation rather than some other, and also, perhaps, when he should engage in this operation rather than some other.

Let us consider instances in which material, either verbal or nonverbal, is likely to be subjected to interpretation. A patient has just told his therapist that he cannot get along with his wife, try as he will. He goes on to say that he finds her nagging, arbitrary, and unloving. He sees no future in his marriage with her. The therapist recalls that many of the characteristics the patient attributed to his wife were also attributed by him to his mother. Depending upon a host of other considerations which need not concern us at this point, the therapist may hazard the interpretation that the hostility the patient feels toward his wife is actually a displacement of feelings he has toward his mother.

Consider the case of a group of young adolescents who were masturbating openly in the classroom (Stirt, 1940). The teacher was at a loss in finding a way to control their behavior. After two one-hour sessions in which the "meaning" of this behavior was interpreted to the boys, a complete cessation of the activity was reported.

Another instance: a person presents himself at an outpatient clinic and complains of anxiety and obsessive thoughts. After an intake interview, projective tests are administered and these are subjected to interpretation.

Of course the number of situations in which interpretation is undertaken could be increased one hundred-fold with little effort, and it may appear to the reader that interpretation as a behavior is of such ubiquity that little can be said about the instances in which it occurs which would be of much significance toward understanding its nature. But this is not the case. All the instances that have been described as well as all other instances in which we professionally engage in psychological interpretation appear to have one feature in common: *someone is in a bind*. It may be the patient, it may be the therapist, or it may be both. We have reached a point where progress by whatever measure we are using appears to have ceased. We have run out of alternative courses of action. We are looking for a different tack to take with a client or to suggest to a client and we seek to accomplish this through the interpretation of certain material. In other words, when we engage in psychological interpretation we are, in effect, saying: "The way in which we have been looking at this situation has led us to a dead end. Let's see if there isn't some other way of looking at this thing." And this is precisely what the psychological interpretation of content consists of: *a redefining or restructuring of the situation through the presentation of an alternate description of some behavioral datum*.

More specifically, interpretation occurs whenever a new or different frame of reference, or language, is brought to bear upon some problem or event. What the patient described as concern about his child's health, he "learns," may represent hostility toward the child. Where a woman saw her fear as due to altitude, she is told that it represents insecurity about her social status. What the Don Juan saw as a problem in being "oversexed," might, his therapist suggests, be better described as concern about being "undersexed." And so it goes. In psychological interpretation, most simply stated, one language system is pitted against another.

While fixity is the state of conditions prior to the onset of interpretation, change characterizes the situation after the in-

terpretation ceases. The parent no longer worries about his child, at least not in the same way. The young lady is now employed as an airline hostess. And our much-maligned Don Juan has settled down to a state of single blessedness. At least these might represent the ideal outcomes of the situations I have described. And they would appear to justify whatever the interpretations were that resulted in these outcomes. Having achieved these outcomes the situation has changed and the need for further interpretation diminishes. Where these or analogous consequences do not follow, it is likely that interpretive activity will continue. Thus we see fairly clearly that the ultimate purpose of interpretation is to bring about change in some state of affairs. How interpretation accomplishes this has not as yet been thoroughly investigated, and discussion of this will be deferred until a later chapter. To be sure, interpretation is not the only procedure used in bringing about change, but it is certainly one of the major ones, and quite likely one of the most powerful ones.

It might be argued that interpretation serves other purposes than that of instituting change. In particular, it might be contended that interpretation, especially with respect to projective test protocols, serves simply as a basis for better understanding the individual's behavior and personality. It may, perhaps, be suggested that it serves as a basis for prediction. With this there can be no argument. Predictions are frequently made on the basis, at least partly, of interpretation of diagnostic test material. However, it should be recognized that when we speak of understanding and prediction, we are simply speaking of certain preconditions for the institution and management of change; these are never ends in themselves except for the dilettante. When we turn to projective tests in our work with an individual we are saying in effect: "We will be better able to predict this person's behavior in a given situation if we can bring a different frame of reference into play. We feel that in order to do this we will have to draw a

different sample of behavior from that available to us now. Specifically, we want a sample of behavior that is amenable to description in our frame of reference, one that was designed with our particular language system in mind."

Finally, it might be observed that change is still the ultimate problem, even where diagnosis is the ostensible one. For we only see persons professionally when they are involved in a set of conditions that in some way, to someone, cannot be tolerated. The conditions in question may not have occurred yet, but may be anticipated. For example, the question might be whether or not a patient will be assaultive to his wife if he is released from the hospital. It might be whether or not a particular candidate with a history of alcoholism should be hired by an advertising agency. It might be why a student becomes ill every time he enters a certain classroom. In each of these instances there is a set of conditions we wish to avert, to assure, or to mitigate, and we seem unable to accomplish this without recourse to a new frame of reference, to psychological interpretation. Whether in all instances this is justified is of course open to question, but that is beside the point for our present purposes.

To sum up, psychological interpretation, viewed as a behavior, is engaged in whenever a state exists that seems refractory to other efforts at mitigation or understanding. In essence it consists of bringing an alternate frame of reference, or language system, to bear upon a set of observations or behaviors, with the end in view of making them more amenable to manipulation.

Events and their interpretation

The term *event* is to be thought of in a generic sense as meaning any occurrence, behavioral or environmental, in a free field or under structured conditions such as interviewing or testing, of which we are aware or which has stood out as figure. Our position regarding the interpretation of events is

essentially that of Kelly's (1955) when he says, "We assume that all of our present interpretations of the universe are subject to revision or replacement" (p. 15). And again, "A clinician chooses his constructs according to what he wants to accomplish" (p. 782). Events, in other words, do not carry with them their own interpretations. They are innocent of any meaning except insofar as we impose it upon them. The meaning with which we invest them, our interpretation of them, will be determined jointly by their own morphology, our purposes and interests as regards them, and our background and experience. While such a statement may seem innocuous enough—and perhaps even platitudinous to some—it has implications that may not be similarly construed by all and that are of particular importance in defining our position concerning the nature of psychological interpretation.

When we say that the morphology of an event enters into the interpretation we place upon it, we merely wish to recognize that within rather broad limits the form or structure of an event increases the probability that one significance rather than another will be attributed to it, that it will more likely be seen in one way than another. But we stress that these limits are broad. It would be easy to lapse into a metaphysical fugue on this point but we shall resist the temptation. It is, for example, simply an empirical fact that certain statements when made about another person are considered derogatory, and further that the person making them is considered in some way hostile toward their referent. Similarly, tears appearing upon being told of the death of another person would most likely be interpreted as an indication of sadness. But these are perhaps modal interpretations, in particular instances other ones may seem more appropriate.

With a modicum of effort and a few well-chosen symbols, it would be possible to conjure up a recondite and impressive diagram purporting to demonstrate how, through learning, this broad band of significance becomes associated with a given

event. We shall forego this exercise, however stimulating it might be, and simply assert our belief that such a process can adequately account for the relationships we observe between events and their interpretations. In doing so, we are, of course, rejecting a realist position with regard to knowledge and ranging ourselves on the side of logical positivism, or of what Kelly (1955) prefers to call "constructive alternativism."

If its morphology sets certain broad limits upon the possible interpretations of an event, the purposes and interests of the clinician, together with his orientation, usually help to reduce these limits to manageable proportions, often to the point where it appears that only one interpretation is reasonable. If, for example, the therapist is intent upon helping a patient "recognize" his competitiveness with others, he may interpret the patient's rejection of a particular interpretation as an instance of the patient's competing with him, the therapist. The rejected interpretation, if accepted, would have represented to the patient that he had been intellectually bested by the therapist; the rejection, in other words, was just another act in a continuing power struggle between the patient and his therapist. If, on the other hand, the therapist is attempting to help his patient gain "insight" into his own defenses, the same rejection might be interpreted to the patient as another instance of his use of resistance or denial to ward off anxiety. Yet another therapist, whose orientation predisposes him to view human problems in terms of ability to give and receive love, might interpret the same rejection as reflecting the patient's fear of closeness: the rejected interpretation represented a gift from the therapist and would therefore commit him to reciprocate in some fashion—a commitment which he could not adequately fulfill. Clearly, in this illustration, truth value cannot be the basis for making one interpretation and not the other, and the making of one does not imply that any other one is untrue; the choice is

made simply on the basis of consistency with the interpreter's orientation and purposes at the moment.¹

The present position has several advantages. Paramount is its loosening of the tie between events and their imputed significance. We begin to ask if this interpretation is the *best* one that might be made. We consider others. We are freed from the belief that the interpretive process is a search for truth (a notion to which we shall return later). We begin to ask what the possible implications are of the various alternative interpretations that might be made of an event, and we feel freer about including these considerations in our final decisions. And finally, we recognize the essential role played by the person in psychological interpretation and are less dogmatic or tenacious when we engage in the interpretive process.

To recapitulate, the interpretation of an event is not a search for the true meaning of the event. Every event is subject to a vast range of interpretations. In psychological interpretation we apply that particular construction which we believe will best suit our purposes and which is consistent with the theoretical frame of reference we bring to the situation.

Modes of interpretation

The reader may wonder how the process of psychological interpretation differs from the activity that everyone engages in continuously and that goes under such headings as perception, construction of events, or cognition. In form there is no difference; in substance there may be.

Man is continuously striving to make sense out of his experience, to impose structure, to anticipate events, and to communicate. For this purpose he develops highly elaborate systems of coding events and hypotheses regarding the various contingencies in his experience that his particular coding

¹ It should be noted that only the most "insecure" or "inexperienced" therapist would be likely to consider the possibility that his interpretation was incorrect and warranted rejection by the patient!

system has produced (Kelly, 1955; Whorf, 1956). The psychologist *qua* psychologist is no exception.

Psychological interpretation differs from other modes of interpretation only to the extent that it brings to bear upon the situation a unique way of looking at it. More specifically, it consists of a language that was developed specifically for the theoretical description of behavior. Thus it contains terms not shared with other languages, and thus it *creates* contingencies not present as a result of the use of other languages. Of course there is no single language system used in psychological interpretation. There are several, each going by the name of some different personality or behavior theory (Rotter, 1954). Depending upon one's theoretical orientation a single event may be described in terms of prior reinforcements, expectancies, sublimation, compensation, or self-actualization. We cannot order such descriptions hierarchically on the basis of priority nor can we order them on the basis of truth values. We can only ask which serves our purposes best.

While psychological interpretation makes use of a language specifically developed to deal with behavior, it must be recognized that there are other languages of other disciplines also developed for this purpose and that there are many instances where behavior is better or more helpfully described by one of these other languages. Thus if our interest happens to be in the behavior of consumers vis-à-vis the new car market we may more fruitfully make use of the language of economics and market research. If our interest is in an individual's disturbance in locomotion we may find that the language of neuroanatomy best serves our purposes. In planning the defense of a client being sued for libel, we would find the language of the law most necessary in discussing his behavior. Again, we cannot order such descriptions hierarchically on the basis of priority nor can we order them on the basis of truth values. While some events seem to resist description in more than one language system, others are not

so recalcitrant. In each case however, we select that language which we expect will maximize our ability to deal with the problem at hand; the choice is a pragmatic one whether we are aware of it or not.

There are those who, in the interests either of proprietary rights or of good housekeeping, have concerned themselves with the questions of when a psychologist is speaking as a psychologist and what the unique aspects of psychological interpretation are. Unfortunately, like so many questions that can be posed, their mere existence does not insure their meaningfulness or their significance. To ask such a question is to ask for a definition. While again, definitions can be generated ad infinitum, some of them very profound indeed, they remain simply definitions and are not statements of fact subject to verification by observation. To be sure, definitions have their place, but in regard to the questions posed above it seems that they are likely only to encourage boundary disputes and unlikely to serve any useful purpose. For example, Brunswik (1952), and Jessor (1958) after him, have suggested that psychology can be defined as a science concerned with organism-environment interrelationships. But surely such a concern is also shared with nutrition, economics, and sociology, to cite just a few examples. Marginal utility, for example, a concept of economics, would make no sense if we left either the organism, man, or the environment, supply, out of the question. There are times when definitions of boundaries serve some useful purpose in that they result in certain changes in behavior which would not occur otherwise. This does not appear to be one of those instances.

The evaluation of interpretations

If, as I have insisted, interpretations cannot be evaluated from the standpoint of truth or falsity, by what means can they be judged? Does this imply that all interpretation is

arbitrary? How can one develop a training program and criteria of achievement from such a standpoint?

As the reader may have surmised, the situation is not so anarchic as it may seem at first glance. While the interpretive process is not a search for truth, any given interpretation can be judged as correct or incorrect. While interpretations cannot be ordered in terms of priority, any given interpretation can be judged as appropriate or inappropriate. The bases for evaluation are the same as those employed with any theory or theoretical statement.

As has been said before, psychological interpretation consists of bringing into play in a particular situation a new frame of reference, a new language system, a new theory. As a result of this, specific statements are generated about the situation. These we refer to as the interpretation. It is therefore possible to ask two questions: (1) Is the interpretation consistent with the theory from which it is generated? (2) Does it lead to, or facilitate, the change in state in which we are interested?

In answering the first question we first cast all the information we have about the event and its context into the terms of the theory in question and then ask whether, against this background, this interpretation makes sense. Is it consistent with the total situation in its transformed version and is it logically and psychologically consistent with our theory? If not, the interpretation is incorrect.

I am not, of course, suggesting that human behavior is a model of consistency. Far from it. But the purpose of theory is, in a sense, to transform raw data and, in so doing, to impose consistency upon it. Thus, to the layman, the hostility exhibited by a child toward his mother, who appears to spend her every waking hour ministering to his needs and protecting him from harm, may appear inconsistent. But when recast in terms of overprotection, domination, frustration, and ag-

gression, we see no inconsistency. This is a contingency we have learned to expect.

The application of a consistency criterion necessitates the existence of a sufficiently articulated theory. And herein lies a present major weakness. Among the theories now developed to account for behavior and personality, there is none that has been so rigorously or so extensively developed that it can be applied to the whole gamut of human behavior and permit judgments of consistent or inconsistent to be rendered with absolute certainty. It seems to be the case that rigor of syntax and extensiveness of applicability are inversely related to each other. Consequently, our evaluations of interpretations by the criterion of consistency may be expected to vary in certainty depending upon the theory involved and the situation in question. But, except to disengage ourselves entirely from the interpretive enterprise, we have little choice.

An interpretation may be correct by our criterion but not appropriate. This involves the question of when to interpret. If interpretation is but one of several tools at the therapist's disposal, it follows that there are probably optimal conditions for its use. Considerations such as the threat of the interpretation to the patient, his ability to utilize it, the attitudes or behaviors it is likely to evoke are all of relevance when we judge the appropriateness of an interpretation. That the kind of relationship a man has with his wife appears to have a large competitive component involved in it may be a correct interpretation of all of the information at hand, but to communicate this to a patient who appears to be on the verge of an anxiety attack would be inappropriate to say the least.

Thus it may be seen that criteria for the evaluation of interpretations are readily at hand. Without being concerned with whether an interpretive statement is literally true or not—a judgment which we have long since recognized as being impossible to make from the standpoint of the philosophy of science—it is possible to determine whether the statement is

consistent with the theory in use and appropriate within the context of its undertaking. Each of these judgments involves some uncertainty, which in turn depends upon the situation involved and the theory in question. The implications of some of these points will be discussed further in later chapters.

Depth of interpretation and related concepts

Interpretation is usually embedded in a set of concepts and assumptions about the structure and functioning of the human psyche that stem for the most part from psychoanalytic theory. Because I intend to demonstrate that interpretation can be treated as an activity and accounted for by a set of assumptions and principles which are independent of any particular personality theory, it will be necessary to examine some of those theory-related concepts commonly associated with interpretation. This examination is intended, however, as a critique not of psychoanalytic theory in general—an undertaking obviously beyond the scope of this book—but simply of the meaningfulness of some of the concepts contained in this theory that are also found in conceptualizations of psychological interpretation. Besides, I have sufficient respect for the self-restorative powers of psychoanalysis to realize that any permanent damage to the theory itself would require a much more massive assault than I intend to mount here. If, however, I should succeed in weakening the reader's confidence in the meaningfulness, or the conventional meaning, of some of the concepts about to be discussed, the ground will then have been prepared for a fresh, mentally unfettered approach to the examination of psychological interpretation.

Although the study of illusions has occupied psychology for some time, this has not made psychologists themselves immune to them. The concepts of depth and the unconscious are a case in point and also ones without which many clinicians would feel themselves unable to rationalize their interpretations. But before pursuing this further, it will be

helpful if we have before us some examples that would be considered illustrative of depth interpretation, of laying bare the unconscious, and some examples of interpretation that ostensibly leave the unconscious unplumbed and undisturbed.

A 29-year-old, unmarried male complains of severe anxiety symptoms whenever he visits or anticipates visiting his dentist. These have increased in severity to the point where he refuses to have dental treatment although he is suffering from an abscess that is quite painful and interfering with his work. He reports having no other phobias. What would represent a depth interpretation in this case? What would represent a superficial interpretation?

Of course there is no ultimate recourse open to us in making this judgment, but the following are offered as examples that would in most likelihood, by present standards, be considered of one genre or the other. Let us take superficial interpretations first.

We inquire further into the patient's history and find that other members of his family also have this fear, although not to this extent. That his fear was learned by observing the reactions of others around him to the same situation might account for the situation but would be considered lacking in much depth.

On one of his first visits to the dentist at the age of seven he had a cavity filled; the dentist was inept and the experience was traumatic. Simple association with, perhaps, some stimulus generalization might be used to account for his problem. This again would not seem to penetrate very deeply.

Because his parents always had difficulty getting him to go to the dentist they frequently offered him gifts if he would go. Might this not have resulted in the reinforcement of his avoidant behavior? This is plausible perhaps, but still hardly seems to go much below the surface.

All the foregoing, it might be noted, are interpretations that, with some variation in wording, we might expect the

patient himself to offer. Let us now look at some samples of interpretation that purport to expose the nether regions of the personality. Do they have anything in common that will at the same time differentiate them from the ones we have just considered?

It is learned that the patient comes from a very moralistic home environment strongly dominated by his father, with whom he never got along. His anxiety symptoms are seen as due to a poorly resolved Oedipal problem resulting in castration anxiety. The pulling of teeth, being symbolic of castration, represents an all-too-possible likelihood for him. In the dentist's chair he would be too vulnerable. Hence his anxiety. This is a depth interpretation.

Again, the patient is unmarried, has few dates, and is attached to his mother. We also know that he has a poor relationship with his father. It takes but a small inductive leap to conclude that his anxiety is not actually due to a fear of pain, but rather to the activation of homosexual impulses as a result of the close physical proximity between himself and the dentist and the passive (feminine) role that he must adopt vis-à-vis the dentist. Again, it would be accepted by many that we are now working at the level of the unconscious.

With no intent of being exhaustive, we might consider one last example of interpretation in depth in this case. Knowing the moralistic home background of the patient, and knowing also that he has always been striving toward achievement and accomplishment, always grasping for responsibility, we might consider the possibility that he has strongly repressed dependency needs which threaten to come to the fore when he places himself as completely in the hands of another person as he does in the dentist's chair. For some this could be quite threatening; perhaps it is for our patient.

All the foregoing interpretations would appear to account for the symptomatology in the case in terms of certain aspects of the life history of the patient. But each interpretation

makes use of different items of information, and some would be considered deep while others would not; some probing the unconscious, others not. What can we learn from this about the concepts of depth and the unconscious?

Clearly, all the items of information utilized are open to public scrutiny; none is hidden. Therefore, although the unconscious is presumed to lie hidden from public view we find that our statements about it are based entirely upon public referents, as are our so-called surface interpretations. The data are there for all to use.

Raush and his associates (Raush, Sperber, Rigler, Williams, Harway, Bordin, Dittmann, & Hays, 1956) attempted a dimensional analysis of the concept of depth of interpretation that is of some relevance to our discussion. They defined depth of interpretation as follows:

Any behavior on the part of the therapist that is an expression of his view of the patient's emotions and motivations—either wholly or in part—is considered an interpretation. A patient has varying degrees of awareness of his emotions and motivations. Depth of interpretation is a description of the relationship between the view expressed by the therapist and the patient's awareness. The greater the disparity between the view expressed by the therapist and the patient's own awareness of these emotions and motivations, the deeper the interpretation.

Using this definition, judges were asked to rate excerpts from transcripts of recorded therapy sessions for depth of interpretation. On the basis of their analysis of their data Raush *et al.* concluded that while depth of interpretation as they defined it was the primary dimension governing judgments, secondary dimensions could be derived which were not clearly interpretable but seemed to vary with the judges and stimuli used.

Using this definition of depth in any strict manner would prohibit judgments about the depth of the various interpreta-

tions offered until we observed how they were received by the patient. If he acceded readily to the interpretation, or if perchance he offered the same interpretation himself, it would not be considered deep. But is this all that is meant by depth?

My view of the concept of depth is similar to that of Rausch *et al.* with certain exceptions. If we view interpretation somewhat more broadly than they do, as any construction of a set of events, not necessarily affective in nature, it seems apparent from observation of its use that the concept of depth is invoked to account for *any* discrepancy between the patient's accounting for his situation and the therapist's, that is to say, for any discrepancy in the language systems brought into play in dealing with a given set of events.

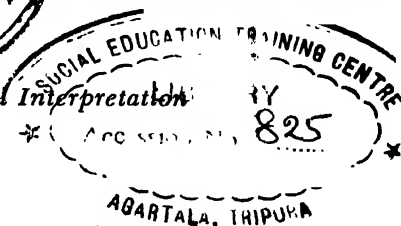
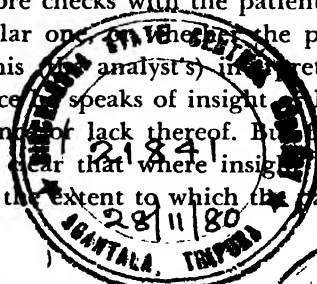
Whorf (1956) long ago, and Bruner (Bruner, Goodnow, & Austin, 1956) and Kelly (1955) more recently, have pointed to the ways in which language makes one sensitive to certain stimuli and not to others, to the ways in which language seems to mold our ways of thinking and dealing with events. This, it would seem, could account for the fact that when different languages are invoked to deal with a problem, we find different items of information brought into the foreground. Therefore, from the present point of view it becomes questionable whether such concepts as depth, awareness, and the unconscious have much meaning apart from their denoting the presence of a discrepancy in sets of interpretations. Thus depth becomes an illusion, or at best, a play on words.

It may be of some interest to consider more closely how this illusion came about. It might first be noted that the concept of depth has been until quite recently the exclusive property of psychoanalysis. If our three examples of depth interpretations have anything in common it is that they reflect the concerns of psychoanalytic theory. Thus interpretations which deal with phenomena of prime interest to psychoanalytic theory are considered, *prima facie*, depth interpretations.

The simplest accounting, thus, would seem to run along the following lines. Psychoanalysis, having wedded itself to a substantive theory of personality with its tripartite division into the superego, ego, and id, was constrained to provide some locus of operation for each of these agencies. Since the ego seemed to be observable in its operation and the others not, it was reasonable to conclude that this was due to the ego being at the surface of the personality and others buried somewhere within its recesses. Personality acquired surface and depth as a result. Thus any statement within psychoanalytic theory referable to the ego was considered for the most part superficial, while any referable to either the superego or id was considered deep.

In effect, what the psychoanalysts and many after them had done was to equate "surface" with "observable" and "sub-surface" with "inferable," and to fail to discriminate between observation and inference, so that they gave statements derived by either means equal factual status. Some facts required special techniques, special training, and the right frame of mind to discover; these were deep. Others made less stringent demands upon their discoverers; these were less deep. Interpretation was a search for truth and anyone who denied its findings was lacking in insight and offering resistance.

The concepts of insight, awareness, and resistance stem directly from the belief that the interpretive process is a search for truth, with the correlative assumption that the analyst vis-à-vis the patient is more likely to recognize truth when he sees it. Having made his interpretation, the analyst therefore checks with the patient to see whether he has made a similar one. (The analyst's interpretation as correct. In the first instance, the patient speaks of insight or lack thereof; in the second of resistance or lack thereof. But from our point of view it becomes clear that where insight is used we are simply asking about the extent to which the patient's construction of events



matches our own, not whether he too has become privy to the truth. When we speak of resistance we are referring to the ease with which the patient will accept an alternate construction of a given situation, one which we think will be of more use to him than that which he has come up with on his own, not whether he is at last ready to acknowledge the truth. In neither instance is the question of truth an issue.

To sum up my position with regard to the concept of depth and its correlative concepts of awareness, insight, and resistance: if one does not adopt a substantive theory of personality—that is, if one views personality as an abstraction or construct, as I do—the concept of depth has no meaning. If one adopts my view of the interpretive process as that of offering alternate constructions of sets of events, with the question of the truth of either construction being both meaningless and irrelevant, then the concepts of awareness, insight, and resistance become of little value, at least as they have been traditionally defined. They may indeed be some value in having terms to denote the extent to which a patient's construction of events matches his therapist's, and the extent to which he is willing to entertain alternate constructions. But these must be recognized as being simply that and nothing else. To do otherwise is to invite mischief. If depth is to be retained as a term in our professional discourse, from the present point of view it can have only one defensible meaning: the complexity of the inferential link between the event and our statements about it.

The unconscious

To do adequate justice to the concept of the unconscious would be no mean undertaking, but I believe that one cannot properly talk about problems of interpretation without taking some stand on the question of the nature and existence of the unconscious. This belief is strengthened by recalling that Freud saw interpretation as making the unconscious

conscious, and noting Jung's (1933) statement: "We must recognize the unconscious if we are to treat of dream-analysis at all, for we do not resort to it as a mere exercise of the wits, but as a method for uncovering hitherto unconscious psychic contents which are causally related to the neurosis and therefore of importance in its treatment. Anyone who deems this hypothesis unacceptable must simply rule out the question of the practicability of dream-analysis." Neither of these statements can be considered the utterances of voices in the wilderness.

To put it simply and bluntly, nothing can be said, by the canons of modern philosophy of science, of the existence of the unconscious as a substantive entity: the assertion of its existence is in principle untestable and hence meaningless. To ask whether the unconscious exists is analogous to asking whether the soul or God exists: one either acts on the assumption that they do or does not. If we consider it as a theoretical construct, we simply doubt the utility or necessity of its existence.² The unconscious represents the outcome of interpretive analysis, and an ill-conceived one at that. But how did this come about?

It has long been recognized that the extremely flexible nature of our language is at once an advantage and a pitfall (Ayer, 1946). The concept of the unconscious is an example of this double character of language. The ease with which adjectives may become nouns and the primitive belief that because we are able to use a term as a subject in a sentence it must have real existence are to a great extent responsible for this state of affairs vis-à-vis the unconscious. But beyond that, in the case of the unconscious it seems also due to the belief that having named some attribute of an object, there must exist some substantive source from which this attribute derives which is apart from the object to which it is ascribed.

² For a more extended discussion of this point see Phillips' (1956) discussion of the question, "Is the concept of the unconscious necessary?"

Having labeled an act or thought as unconscious—that is, having ascribed this attribute to it—proponents of the unconscious as a substantive entity go on to posit a single source from which all events with this attribute must stem and use the attribute itself as the name of this source. And so, if an event is unconscious it is berthed in the unconscious; if it is conscious it resides in consciousness. We have created two realms and all the attendant problems of interchange between them.

Unconsciousness as an attribute leading to the unconscious as an entity is not the only instance of this occurrence in the history of psychology. Essentially the entire edifice of faculty psychology came about in the same way. Behavior was described as intelligent, and so *the intelligence* came into being; the attribute “imaginative” was bestowed upon an event, and *the imagination* came into existence. It would be interesting to speculate why certain attributes invited this treatment and others did not. Although we also describe some behavior as random, we seldom concern ourselves with the substantive existence of a randomness; although we describe an act as hostile, it has been some time since anyone has attempted to defend the existence of a “hostile” as an entity—although for some time the devil was a leading contender for this role; although we consider some behavior dependent and other behavior independent, neither of these attributes has been accorded the status of a substantive realm. The problem is intriguing but unfortunately one that would lead us too far afield to justify further speculation at this point.

To recapitulate our position, we have behavior and we have attributes that we find useful in describing this behavior. Where we engage in the psychological interpretation of behavior, instances occur where our constructions do not jibe with those of our patient. It is in these instances that we find the subject being described as unconscious of some motive (the one we believe best accounts for this behavior) and that

we find the unconscious being brought in to provide a residence for this motive. This again clearly imbues the interpreter with superior vision vis-à-vis his subject.³ From our point of view, again, this simply represents two differing constructions of the same situation, nothing more.

The dual nature of psychological interpretation

In our discussion of the nature of psychological interpretation thus far, we have been guilty of an elision that simplified discussion of some of the issues raised and yet did no harm. It is now time to correct this. Where we previously characterized psychological interpretation as bringing an alternate frame of reference, or language system, to bear upon a set of observations or behaviors, it is now necessary to be somewhat more precise in our characterization and to recognize that there are two aspects to the process rather than the one implied by this statement.

The first aspect of psychological interpretation is that of a translation of raw data into the terms of our theory or frame of reference. Where the client, for example, reports disturbed sleep, sweating palms, and dysrhythmic breathing, we may use the term anxiety; where the patient reports dreaming of climbing a telephone pole, for the pole we may read male sex organ; where the worker is described as always arguing with his boss, we may report this as his having difficulty in

³ The question might arise as to whether, from this point of view, the patient himself can ever offer an interpretation which would be considered "deep" or revealing of unconscious motives. I believe that the answer is yes. In such a case the patient has adopted the interpreter's frame of reference and gives an explanation consistent with this frame of reference. If he refers to motives in his interpretation which he would not have been expected to refer to at the time the behavior being explained occurred, he would be making a "deep" interpretation or making the unconscious conscious. Similarly, if the patient's interpretation is one which would not be expected from a hypothetical, unsophisticated layman, it would be considered "deep." In both instances, it is still a discrepancy in construction that is crucial in deciding whether or not the interpretation is "deep."

authority relationships. It is clear that in each of these instances we are in effect using a different lexicon for the same referents. We add nothing to the situation other than this.

But there is frequently another aspect of psychological interpretation. Having translated the data into the language of our theory we then formulate propositions regarding the data. This is the second aspect of interpretation. It results in propositional statements that are at once consistent with our theory to the extent that the development of our theory permits such a judgment, and consistent with all the data at hand.

The propositional statements generated by the interpretive process are usually couched in theoretical terms and are not in and of themselves empirically verifiable. In order to achieve verification, a final translation back into the language of our data, the events, must be made. In practice the process is frequently short-circuited so that it appears that we go directly from observations to propositions regarding them. However, upon careful reflection it would become obvious that this is not possible. For it is only through theory, however rudimentary it might be, that we can find any basis for propositional statements. If nothing else, our theory provides us with a language and a set of rules for its use that permits us to abstract from situations and thereby note the various contingencies that are exemplified in a given propositional statement.

To illustrate the dual aspect of psychological interpretation more concretely, let us take the fellow who is continually arguing with his boss. We find that his entire work history is studded with such incidents, and furthermore that his school career was periodically interrupted by expulsions for misconduct in class. In translation, we might say that this individual seems to have a problem in his relations with authority figures, because by the rules of our theory the term "au-

thority figures" can be applied to both teachers and bosses. It would be mistaken at this point to believe that we have discovered anything new or to regard our theoretical statement of the case as an explanation of his problem, as some are prone to do. To say that our patient doesn't get along with bosses because he has authority problems is tautological.

Depending upon our interests at this point, a number of different propositions might be formulated. For example, we might state that he has authority problems because he lacked an adequate father figure with whom to identify. After we specify in data language what we mean by "father figure" and "identify," the validity of this proposition is open to test. Such a proposition rests upon a theory that the father represents the prototype of authority and that all subsequent relations with authority figures will be conditioned by the nature of the relationship with him.

We might with equal ease advance the proposition that such a person will have difficulty developing an adequate relationship with his therapist in psychotherapy. Or again, that he is likely to show hostility toward members of minority groups. The latter proposition is based upon the additional concepts of repression and displacement. Because we have inferred an inadequate identification with his father, and because according to psychoanalytic theory this identification is crucial in the development of one's sex role, a further proposition might be offered regarding inadequate sexual identification. But again, before these propositions can be of much use or tested, they must be translated into the language of observation. However, had we not first had the theoretical concept of "authority figure" available to us, together with a number of theoretical statements regarding relations with authority figures, none of these propositions could have been legitimately formulated.

It is important to stress the point that the job of psychological interpretation can never stop at the stage of the

formulation of theoretical propositions; there must always be the last step of returning to the language of observation. This must be stressed because failure to do this represents one of the major shortcomings of much that goes by the name of psychological interpretation today. Frequently this is termed "revealing the dynamics of the personality." I have no quarrel with one speaking of personality dynamics so long as he recognizes that this helps no one, least of all the patient, until these dynamics are spelled out in behavioral terms. For a patient to be described as having poor ego strength, negative goal expectancies, or a closed conceptual system may be gratifying to the person wielding these terms, but proves nothing about the adequacy or use of his theory nor tells us what to do for the patient, until the terms tell us what to look for. Unless we do this we are doing nothing more than engaging in "a mere exercise of wits."

As critics have been tireless in pointing out, it is the adequacy of the tie between the language of theory and the language of data that determines the ultimate meaning and utility of a theory. Where this tie is loose—that is, where the empirical referents for a given theoretical term are not clearly specified—the theory gains in viability at the expense of utility. It is less vulnerable to disproof, but it is also less useful in practical application. This does not mean, of course, that for each term of the theory there can be one and only one empirical referent. But it does imply that we should have some ultimate means of choosing between the referents to be applied in a given instance. Thus, for example, to say that an individual has poor impulse control, perhaps because of his performance on the Rorschach, is of little value until we know how this will manifest itself, whether in the expression of verbal, physical, or otherwise hostility, whether in frequent episodes of sexual promiscuity, or whether in gormandism. For purposes of testing a theory, it may be sufficient to treat all these referents as equivalent manifestations of inadequate

impulse control. This is the case, for example, in studies of the construct validity of tests (Cronbach & Meehl, 1955). But in psychological interpretation in the practical clinical situation we cannot usually tolerate this luxury. For here the decisions we are likely to make about a patient will vary tremendously, depending upon which of the various ways we anticipate that the patient's inadequate impulse control will manifest itself.

Thus we see that between the clinician and the experimentalist there can be no distinction in terms of hardheadedness. The clinician, no less than the experimentalist, must have a sound appreciation for the importance of the tie between theory and data if he is to perform his job adequately.

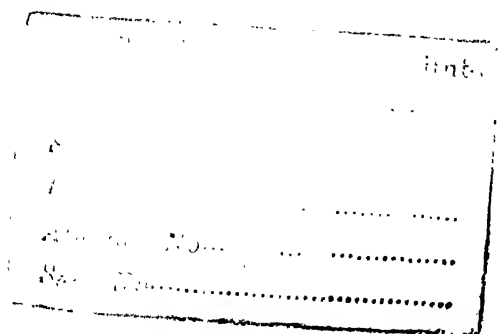
SUMMARY

Psychological interpretation was defined as "a redefining or restructuring of the situation through the presentation of an alternate description of some behavioral datum," and was therefore seen as an instance of pitting one language system, the interpreter's, against another, the patient's. Examination of those situations in which psychological interpretation occurs led to the conclusion that it is best understood as an activity—one of many—which we engage in when we are attempting to institute some change and believe that this change might be facilitated if the situation were viewed in some different perspective than that presently held.

Two aspects of interpretation were described. The first consists of simple translation in which the language of the interpreter is applied to the data under consideration, and the second consists of the formulation of propositions, usually derived from theory, whose consequences are potentially verifiable.

Rejected was the idea that psychological interpretation is a means of uncovering the truth or that it is meaningful to

think of it in such terms as depth, insight, and the unconscious. The criteria by which we evaluate interpretations are their consistency with the theory from which they are derived as well as with the observations to which they are applied, and their effectiveness in bringing about the change intended.



CHAPTER 2.

The Logic and Assumptions of the Interpretive Process

I SHALL be concerned in this chapter with the logic and assumptions implicit in the interpretive process and shall leave for the next chapter a discussion of the principles followed. To borrow some terms from law, the logic I am to discuss is a *de facto* logic rather than a *de jure* one. It came into being in an evolutionary way and has rarely been made explicit. No one has ever explicitly given it assent. Nor has anyone expressed dissent. No one has asked what the alternatives are, if there are any. It is hoped that by explicating the rules which seem to be followed in practice, the stage will be set for others to consider such questions and take whatever action may seem necessary.

The distinction between assumptions and principles which I make is simply this: one could, as indeed many do, engage in the interpretation of material and never be concerned with

the assumptions upon which this activity rests. One could teach a system of interpretation and never mention the assumptions implicit in the system. On the other hand, the principles of the process are always explicit; they are what are taught. They are the rules of transformation. Both the assumptions and principles involved have certain implications for the form which research should take, and this chapter and the next will discuss these implications.

Logically, another distinction may be made between assumptions and principles. This is one of priority of development and permanence. The assumptions of the interpretive process are both prior to the principles and more permanent. New principles may be developed; old principles may be discarded. But the assumptions remain the same, and all principles must satisfy them. Thus research, while governed by the assumptions of the interpretive process, poses no imminent threat to them; it is only the principles that are vulnerable. Of course, should a sufficient number of instances accumulate in which tests of principles of interpretation were negative, we would begin to call into question the validity of the underlying assumptions.

THE SEMANTIC AND PROPOSITIONAL ASPECTS OF INTERPRETATION

In the previous chapter I observed that there were two aspects to the interpretive process, the bringing into play of a different language system in the description of events, and the formulation of propositional statements in the terms of this language system. It will be convenient to have terms for each of these two aspects, and so I shall refer to the first as the *semantic aspect* of interpretation and to the second as the *propositional aspect* of interpretation. Following Morris' (1938) definition of semantics as that aspect of his theory of signs dealing "with the relation of signs to their designata

and so to the objects which they may or do denote," I shall understand the semantic aspect of interpretation to be concerned only with the relations between words and their referents. As such it is concerned with the application of rules that determine "under which conditions a sign is applicable to an object or situation," and that "correlate signs and situations denotable by the signs" (Morris, 1938). Therefore, to decide whether or not a particular act should be called hostile is a semantic problem, in that it depends upon whether or not the act meets the criteria for the application of this designation according to our rules.¹ Truth is in no sense an issue here; we may only question the acceptability of the rules and the correctness of their application. On the other hand, to state a proposition, for example, "He becomes hostile whenever his masculinity is questioned," is simply to formulate a sentence that may be judged as true or false (Cohen & Nagel, 1934); truth does become an issue for the propositional aspect of interpretation. If we remember that "true" and "false" are not being used in an absolute sense, but rather as judgments always conditional upon a given frame of reference and context, there need be no fear of misunderstanding when we speak of the semantic and propositional aspects of interpretation.

There are two additional ways in which the semantic and propositional aspects of psychological interpretation differ from each other. These might become more apparent if we consider some additional examples of each. A mother reports being extremely anxious about her child's health and cares for him in such a way that severe restrictions are put upon his play activity and independence. To say that this is an

¹ It is evident that the processes involved in the semantic aspect of the interpretive process could be termed "perception," "classification," or "instantiation" (Sarbin, Taft, & Bailey, 1960). I prefer to use the term "semantic" over any of these to describe this aspect of interpretation, in order to emphasize the point that this is a problem in language usage and analysis.

instance of overprotection represents the semantic aspect of interpretation; to say that this mother fundamentally rejects her child represents the propositional aspect of interpretation. The former represents one way of describing certain phenomena and cannot as such be judged true or false except insofar as the rules of transformation were misapplied, while the latter represents an assertion that is presumably susceptible to empirical verification.

Let us consider one more example, this time in connection with dream interpretation, contrasting the semantic and propositional aspects of interpretation. A 27-year-old man, who was being seen in therapy because of his inability to derive sexual satisfaction from his relations with his wife, to whom he had been married for three years, reported the following dream: "I am in a florist's shop and looking for a bouquet. After searching for some time I find myself looking into the case where the flowers are kept. This case is very low so that I must get down on my knees to look into it. I find a light switch in the case and turn the light on and then stick my head in to look around. The case is cold, damp, and empty, except for one withered bouquet in a far corner. At this point I woke up."

I shall not discuss the principles involved in the interpretation of this dream since these are covered in the next chapter, but instead move right into interpretation, distinguishing between the semantic and propositional aspects as I do so. The bouquet for which the patient is searching represents sexual satisfaction (semantic aspect). The case which he finally turns to and investigates, describing it as cold, damp, and empty, represents his conception of his wife's genitalia and its ability to provide him with sexual gratification (semantic aspect). The whole dream suggests hostility toward his wife and a denial on the patient's part of any responsibility for his failure in deriving sexual gratification (propositional aspect). He sees the entire sexual problem as dependent upon

some change in his wife (propositional aspect). If we were predisposed to considering persons' locations on the psychoanalytic scale of psychosexual development, we would say that this man is fixated at a pregenital level because of his refusal to accept any responsibility and because of his lack of concern with his wife's own sexual satisfaction. This last assertion also represents a proposition, since there are other behaviors that are presumed to be associated with fixation at the pregenital level, and so it is possible to judge this assertion as true or false depending upon whether these other behaviors are manifested by this individual.

It should be noted that in each example, the semantic aspect of interpretation was concerned with ways of describing events or behaviors, while the propositional aspect was concerned either with assertions of relationships between these events or with assessments of the personality of the person involved. Having subjected all the available data to the semantic aspect of interpretation, we find ourselves in a position to generate propositional statements, and these are of a relational nature generally having implications for the assessment of personality along some theoretical or practical dimensions.

The recognition of this difference in function between the semantic and propositional aspects of interpretation is important when we are engaging in the study of a particular individual. If our task is to provide an analysis of his personality—that is, to provide a series of statements about *him*—it becomes clear that we have not accomplished this until we have carried our interpretive analysis through the propositional stage. In many instances the proposition may be implicit in the statements arising at the semantic stage, but not in all. Thus, although we might characterize a mother's treatment of her child as overprotective, the implications of this for her own personality and attitudes toward her child still remain to be spelled out. Similarly, to describe certain be-

haviors of an individual as dependent is not equivalent to describing the individual as dependent, for dependent behavior may be manifested in many instances by persons who could not appropriately be described as dependent. Until the proposition has been stated, we have no indications of what to expect of the individual in the future or of how to rationalize his behavior of the past.

On the other hand, in therapy it may be sufficient for our purposes to remain at the semantic stage in many instances. To point out to our emotionally starved patient that her overeating represents a substitute for love and affection may be sufficient to make this behavior somewhat less accessible to her, while to inform her that she is fixated at the oral level may only provide her with an opening gambit at her next bridge party, leaving her as omnivorous as ever. However, this involves questions of how and when to interpret as well as how interpretation affects behavior, and these will be taken up in later chapters.

The second point to be made about the difference between the semantic and propositional aspects of interpretation involves the extent to which each is dependent upon theory; it is the propositional aspect that is the more dependent upon the structure of the theory in question. For it is the syntax of the theory, however loose it might be, that justifies the syntax of the proposition. The propositional statements we generate with regard to a particular case are only special instances of the propositions embodied by our theory. The propositional aspect always involves "going beyond the information given," to borrow an expression from Bruner (1957), while the semantic aspect simply involves a transformation of the data. In this leap from the data to the proposition our only guide is the theory, sometimes in the guise of "common sense," sometimes as elaborate (or simple) as a mathematical model, sometimes inchoate, but always the theory. It therefore becomes difficult to discuss in detail the propositional

aspect of interpretation without recourse to the discussion of specific theories.

Since my concern is with an examination of the logic of psychological interpretation rather than with the espousal of any particular theory, I shall be most concerned with the assumptions and principles involved in the semantic aspect of psychological interpretation. The propositional aspect, being a particularization of the propositions of the theory, follows fairly readily once the events under consideration have been translated into the terms of the theory. I shall, however, have occasion to discuss cases where propositions seem to be more empirically than theoretically rooted.

To summarize the distinction that I see between the semantic and propositional aspects of interpretation, the former represents the substitution of one language system for another at the descriptive level and cannot be adjudged true or false, while the latter leads to assertions in this new language system that may be so adjudged. While the semantic aspect is concerned primarily with statements about events, the propositional aspect involves statements about relationships between events and about individuals. Whether one must carry psychological interpretation through both phases depends upon his purposes in a given instance. And finally, I have noted, that while the semantic aspect utilizes the language of a given theory, it is the propositional aspect which is more dependent upon the structure of the theory.

It should be clear to the reader that I am not undertaking to lay down or endorse a set of dicta to be followed in psychological interpretation. Rather, I am attempting to explicate those rules that seem to be used in practice. In effect, what I propose to do in this chapter is to peer over the shoulder of a hypothetical psychologist as he engages in interpretation. I shall attempt here to make explicit those assumptions that seem to be implicit in practice without any judgment as to their validity or utility.

THE SEMANTIC ASPECT AS ASSIGNMENT TO CLASSES

While I have previously described the semantic aspect of psychological interpretation as the substitution of one language system for another one, in understanding how this operates I shall need to distinguish between a class and the name of the class. For when we substitute one language system for another in describing an event we are in effect assigning that event to a particular class of events all bearing the same designation in the new language system.

The distinction between conjunctive and disjunctive classes

A class consists of a group of events all having at least one characteristic in common, which serves as the criterion for membership in it. Criteria for class membership may be stringent or lenient, complex or simple, depending upon the attributes and the possible relations between them which we set up as our definition of the class. While a single property is sufficient for the definition of a class, most significant classes in psychological interpretation involve several properties. Where this is the case, for an event to be assigned to a particular class, in some instances it is required that it possess all the properties contained in the definition of the class, while in others it may be sufficient that it possess only some of the properties contained in the definition of the class. The former, following Bruner, Goodnow, and Austin (1956), we may refer to as *conjunctive classes* (for example, both properties A and B must be present in order to qualify for class membership), while the latter may be referred to as *disjunctive classes* (the possession of either A or B is sufficient to satisfy the criterion for class membership). While Bruner, Goodnow, and Austin (1956), in a different context, define a third class, a *relational class*, where membership is based on the existence of some particular relationship between attributes, there seems to be no reason why, as Price (1953)

suggests, relationships themselves cannot be treated as properties, either present or absent in any given instance, and thus handled under the conjunctive-disjunctive schema.

To illustrate what has been said with regard to classes, let me take a single item of behavior and see first how interpretation moves it from one class to another as we shift language systems, then consider the implications of the conjunctive-disjunctive distinction I have introduced. The behavior is that of requesting advice from others. When an individual engages in this behavior to a great extent, the layman might in characterizing it assign it to the class "never thinking for oneself," or, if he is more kindly disposed to the individual in question, to the class "respect for the opinions of others." Taking the latter class, this would include other behaviors also, such as, perhaps, wide reading of editorial opinion although not necessarily forming an opinion in sympathy with the leading editorial opinion, and engaging in discussion of controversial issues with people of divergent points of view. On the other hand, the psychologist who observes this item of behavior to be a frequently occurring one for the individual may assign it to the class "dependency." In this class it would in all probability part company from some of the other behaviors with which it had been lumped by the layman, and instead find itself treated similarly to such behaviors as vacillation in decision-making, conforming behavior, and refusal to volunteer to take responsibility. From an item of behavior to be fostered, it has become one to be coped with and controlled if possible. Clearly the classes we have available in our language system, and the classes to which events are assigned, make a difference.

It should also be obvious that there would be no point in arguing whether this item of behavior really represents an instance of "dependency" or "never thinking for oneself," or "respect for the opinions of others." These are matters of definition that can be resolved only by an enumeration of the

attributes necessary for inclusion in each class. Where the criteria for two classes are coextensive, which is rarely the case, we have synonyms and it should make no difference which term is used; in all other instances one must ultimately choose the language system, or class within that system, that one feels will be most useful for one's purposes.

In some instances where two language systems are being compared, it will be found that the definition of a particular class in one language includes all the attributes required for membership in a certain class in the other language plus additional attributes that might serve to define yet another class in the latter language. Where this is found to be the case, we may say that the former language has greater generality or subsumptive power than the latter. This is frequently observed as we move from the language of the psychologist to that of the layman, and from the language of the genotype to that of the phenotype. It is the subsumptive power of a language that is responsible for its ability to describe phenomena economically. It is also this power that imposes whatever lawfulness we observe upon the universe.

The first task facing the interpreter of psychological material is that of analyzing the event into its component attributes. His theoretical language tells him what attributes are criteria for inclusion in each of the many classes covered by that language, and so it is only for the presence or absence of these attributes that any given event is searched. Some other theoretical language may include other attributes in its class definitions, but for all practical purposes, as we scan the universe we are blind to all attributes other than those considered significant by our own language system.

Having analyzed the to-be-interpreted event into its component attributes, the interpreter then scans the various theoretical classes available to him and attempts to match the event with one of these on the basis of class membership requirements. It is at this point that it becomes apparent that

while conjunctive classes increase the stringency of their criteria for membership as the number of attributes required is increased, simplicity in application of the criteria also increases. For while it may be harder to satisfy the requirements for the presence of six attributes than for two, it also becomes relatively easier to recognize instances of failure to satisfy the criteria where six attributes must all be present than when two are required. On the other hand, in the case of a disjunctive class, as the number of attributes that might serve as alternative means of class entry increases the ease of gaining membership increases, but at the same time criterion complexity also increases—it becomes increasingly difficult to determine whether a given event is an exemplar of the class or not. For the absence of a single attribute is no longer a sufficient basis for exclusion from the class. Thus, as the number of disjunctive classes in a language system increases it appears to gain in flexibility but at the expense of increased probability of error of application due to increased complexity in application. That is, the rules the interpreter must use in working with disjunctive classes are considerably more complex than those for conjunctive classes. And as complexity increases, it is reasonable to expect error to increase as well. Consider, for example, the difference in rules by which an element may gain entry into either a conjunctive or a disjunctive class in which the three attributes *A*, *B*, and *C* serve to define the class. In the case of the conjunctive class there is a single rule: an element must possess all three attributes, *A*, *B*, and *C*, to gain membership. In the case of a disjunctive class, any one of the following conditions would serve to qualify an element for membership: *A*, *B*, *C*, *AB*, *BC*, and *ABC*.

I must confess now to that most ubiquitous of academic crimes, discussing the problem in terms of the abstract, ideal situation. The sad fact is that there is no theoretical language in use at this time which explicitly states all the attributes and their relations for each of the classes covered by that

language. We have been describing a model of one part of the interpretive process. In most instances, it is only very poorly approximated in practice. One way of remedying this situation however, is that which we have here undertaken. For insofar as the model is accepted as reasonable, the disparity between it and the actual situation should serve as an incentive for those workers dependent upon it to work toward its improvement.

While it is difficult rigorously to define the criteria for class membership in any of the current theories of personality, it is possible to give examples of the two types of classes we have been discussing. It should, however, be apparent that we cannot in all cases be sure we are dealing with a disjunctive or conjunctive class if all of the elements entering into the criterion for membership are not made explicit. For what may appear to be a disjunctive class may in fact be a conjunctive class if it turns out that there is but a single attribute which must always be present before an event qualifies for membership. Where this becomes the case, all the other attributes become irrelevant from the standpoint of the criterion for membership.

The problem of disjunctive classes

Through the use of the concepts of reaction-formation and repression, psychoanalytic theory presents us with the prime example of a language system abounding with disjunctive classes. Let us take as an example the class that might be designated "hostility." What are its defining attributes? First we might note that they may be of a verbal or nonverbal nature. An insulting remark is an instance of hostility just as is a punch on the nose. Among the verbal attributes, it is not only culturally recognized abusive or insulting language that would qualify as a hostile event, but also any verbal response classified as such by the rules of some theory. We find, for example, that any percept in a Rorschach test protocol that

contains a verb designating some form of destruction, or that involves the end product of the action of such a verb, would also be an instance of hostility (Elizur, 1949). Seeing a scowling face, an injured butterfly, an animal about to devour its prey, or even a pair of pliers, would all be instances of hostility by the rules of Rorschach content analysis. But the behavior may not contain any of these attributes and still qualify as hostility. The asking of a question of another individual that results in his discomfiture may qualify as hostility regardless of the content of the question. The expression of a dissenting opinion may qualify as hostility, and this again regardless of the content of the point under consideration. When we invoke the concept of reaction-formation, it then becomes possible for extreme concern for the well-being of another person, whether this is expressed verbally or otherwise, to be considered an expression of hostility. By an analogous process, inversion, dreams involving the expression of love or admiration may be considered hostile dreams. Finally, if we admit repression into the picture, a TAT protocol completely devoid of themes involving hostility (as we have thus far defined it) may be taken as an instance of repressed hostility. Obviously this class of events is not a very exclusive one. One might also wonder whether it is a very useful one.

It might be argued that I have chosen an unrepresentative concept or that the class is not actually as broad as I have presented it, but rather that there are a number of smaller concepts, such as verbal hostility, physical hostility, and repressed hostility. The question of representativeness is not crucial since the term was only chosen for illustration, not as a basis for evaluating the theory. In addition, I know of no way of selecting representative concepts from any theory. But the question of whether there are not actually distinguishable many subclasses of the more general class of hostility deserves more extended comment because the problem of subclasses is

a general one and always begs the question of the meaningfulness of such breakdowns.

In ordinary discourse it is certainly true that we speak of various kinds of hostility. In many instances in practice we also distinguish between different types of hostility. Where this is the case we are certainly justified in maintaining that there are many kinds or classes of hostility. But in some instances, for many purposes, these classes are collapsed into a single class. And this is not, of course, confined to the concept of hostility. Thus, when we assert the proposition "This is a hostile person," or its contrary, as we frequently do, we act as though there is a single class, hostility, which we consult in some fashion in arriving at our conclusion.

Disjunctiveness of classes may be the price that we have to pay for increasing the range of applicability of a language system. That is, as we move from one medium to another we frequently find certain attributes which are by their very nature and that of the medium, impossible of occurrence. For example, as we move from the actual home situation of a patient to his TAT protocol the probability of his exhibiting a behavior which would result in physical injury or destruction decreases markedly. If we wish to use the term hostility in both media, we must be prepared to accept a disjunctive criterion.

The question arises, however, of whether a term retains the same meaning as it is applied alternately to material from different media. Although disjunctive classes are a logically meaningful type of class, are they psychologically meaningful as well? Does hostility, for example, mean the same thing when we use it to designate a verbal event occurring in the context of a TAT protocol as it does when it is used to designate a behavioral event between a parent and child? While this question has been raised in connection with our discussion of disjunctive classes as a type of class, it must also be asked in the case of individual conjunctive classes as well.

For while the conjunctive class appears to have a much more stringent criterion for membership, we must remember that this criterion, as in the case of disjunctive classes, is an analytical one, and the question we have posed about meaning is an empirical one.

It is here that logic must make its obeisance to reality. And

must be undertaken if our language system is ever to achieve the univocality required by the canons of science and the demands of the clinic. For, while logic requires only that our definition of a class be such that it can be applied without exception and without ambiguity within some realm of discourse, unless we are interested in the development of classes as a purely intellectual exercise, we must make additional demands upon the classes we have defined. These demands are dictated by the assumptions and purposes of the interpretive process. We have discussed the purposes of interpretation previously; let us now turn to its major assumptions.

ASSUMPTIONS OF THE INTERPRETIVE PROCESS

The equivalence of events within a given class

This assumption states that all members of a class are, for all practical purposes, equivalent with each other. This may be through a common cause or source, or it may be through a common implication or effect. This assumption is a broad and crucial one in the operation of the interpretive process.

It is this assumption that is made, for example, when the seeing of eyes on the Rorschach is taken as equivalent to complaints of being watched, and used as a basis for inferring suspiciousness and paranoid tendencies. Indeed, it is this assumption that underlies the entire rationale for subjecting a projective test protocol to interpretation and deriving in-

ferences about the nontest behavior of the individual. For in all such cases, as we shall see later, the events of the test in question are assigned to the same classes as nontest events. For all intents and purposes, the test situation is treated as a miniature life situation.

It is this same assumption that justifies the search for a frustrating agent when hostility is observed, whether it be in the form of physical aggression on the part of a child or verbal vituperation from an adult. If our theory contains the proposition that frustration leads to aggression, then according to this assumption, it matters not what form this aggression takes; we expect to be able to trace it back to some event interpreted as frustrating. Of course the theory may contain other propositions relating hostility or aggression to other classes of events as well as frustrating ones, and in this case should no frustrating event be found the search would be continued for events falling into these other categories.

Examples of the operation of this assumption could be easily multiplied. The point is that this assumption lies at the very basis of the entire interpretive enterprise and that unless the classes contained in our language system satisfy it—that is, unless the events contained in them behave in accordance with this assumption—interpretation will lead to nothing but confusion and dismay. The problem is that of determining when the equivalence assumption is satisfied and when it is not. In some instances the answer to this question will lead to a change in our language system, in others the language may remain essentially the same but the assumption will be applied less broadly. This latter result would, of course, be tantamount to a modification of our language also. But this would be in the direction of greater precision of application rather than radical revision of classes and at most would result in a multiplication of classes.

Research implications. The form a research program would take is easy to specify; the content of it less so, since this

would depend upon the theory involved and the experimenter's ingenuity. Fundamentally, such a program would consist of formulating hypotheses concerning the relations between certain classes of events. These hypotheses represent deductions from theory, however crude such a theory might be. Following the formulation of the hypotheses, we would test their validity in terms of various exemplars of the classes that form their terms. If our hypothesis were that frustration leads to aggression, we would test this hypothesis in terms of specific events which we take as exemplars of frustration and aggression. If the hypothesis gained support in the experiment, we would accept these events as members of the classes to which we had assigned them. If not, we would question their claim to such membership.

The difference between the type of research program we are suggesting here and that commonly found in the literature should be obvious. For our purposes we do not question the theory. We accept this as given and question only the legitimacy of assignment of specific events to given classes, or the definition of the classes. Theories do not stand or fall with this research, but definitions do. Although hypotheses are formulated, it is not their validity that is at stake. They merely provide the means of testing the validity of our use of a particular language system. Clearly, if over a period of time it became apparent that it was impossible to find sets of events to fill the classes of the theory so as to yield valid hypotheses, we would begin to suspect the theory.

In form, the research undertaken to evaluate a set of definitions may not differ from that undertaken to evaluate a theory. The difference occurs only in what we take for granted and how we use our results. In all research one must begin at some point that one does not question. For those who are testing a theory, it is the form of the data that is unquestioned. For those who would test the legitimacy of certain events as claimants to the role of data in the theory, it is the

theory that must remain unquestioned. I am not suggesting that theories go untested. It is simply that one cannot ask both questions at the same time.

I do not propose to review research bearing on the questions that I have raised regarding the definition of classes. This is best done within the context of the particular theory or language system that one is interested in evaluating. But we might consider two examples as illustrations of my conception of the form of research required and how it differs from that done to test a theory. The first is by Wertheimer (1953) and is concerned with the legitimacy of the "eye" content response on the Rorschach as a member of the class that might be termed "suspiciousness" or perhaps more precisely, "delusions of surveillance." Usual Rorschach practice takes the eye percept as an indication of suspiciousness on the grounds that the individual's percepts reveal, among other things, his major preoccupations and that anyone who sees eyes must be preoccupied with being watched by eyes. Because suspiciousness—or more accurately, events taken as exemplars of this class—is frequently found associated with paranoia and paranoid schizophrenia, themselves class names, a number of eye percepts occurring in a Rorschach protocol is regarded as an indication of paranoid trends at the very minimum. Wertheimer's research was an attempt to determine whether this was justified.

Wertheimer examined 230 Rorschach protocols of mental hospital patients for the occurrence of the word "eyes" and the number of eye responses. Comparing paranoids and paranoid schizophrenics with seven other diagnostic groups, he did not find that the paranoid patients produced significantly more eye content responses, as one would expect from the usual criterion for the diagnosis of paranoia and paranoid schizophrenia. Wertheimer concluded that there does not appear to be a one-to-one correspondence between behavior and Rorschach signs—another way of saying that it is ques-

tionable whether all Rorschach signs fit into the classes to which they have been assigned. He did not, however, question the belief that suspiciousness is a characteristic of paranoid individuals, nor did he, as he might have, question the definitions of his diagnostic groups. These points he rightly took as given for the purposes of his research. The hypothesis was not supported, but this had no relevance for any theory of paranoia or paranoid schizophrenia, only for the interpretation or classification of one item of behavior.

On the other hand, in the work of Blum (1949) we have an example of research in which the form of the data, and their interpretation, is unquestioned, and it is a theory that is at stake. In attempting to investigate the validity of the psychoanalytic theory of psychosexual development, Blum made use of a series of cartoon drawings of a dog, Blacky, in a number of situations assumed to represent various critical stages and significant aspects of psychosexual development, for which individuals were asked to make up stories and answer a series of questions. There was no questioning as to whether a given cartoon and the response associated with it represented oral sadism or not; this was taken as given. The question was simply whether responses to this particular card conformed or did not conform to an hypothesis derived from psychoanalytic theory. Blum's conclusions were that according to his reading of Fenichel (1945), the research using the data obtained via the Blacky cartoons supported the psychoanalytic theory of psychosexual development. Should the data not have conformed to expectations, presumably it would have been the theory which would come out the loser, not Blacky. Thus, in the original investigation by Blum it was not a language system and its usage which was at stake; it was assumed that the language system was developed to the point that an event classified as "castration anxiety" was equivalent to any other event that might also be so classified. The only question was whether a correlation existed between, let us

say, castration anxiety and masturbatory guilt among males.

So encouraged apparently was Blum and some of his followers by the outcome of his original investigation, that the instrument developed to investigate the theory was accorded the status of a "test." From this point on research on the Blacky Pictures was no longer concerned with the theory of psychosexual development; this was now inviolate. Instead, subsequent studies of the validity of the Blacky Pictures represented, in certain instances at least, questions about their interpretation. A good example of this kind of research, which quite clearly is concerned with determining whether the assumption of the equivalence of all members of a given class was satisfied, was one in which amount of ice cream consumed was correlated with "oral eroticism" as inferred from the test (Blum & Miller, 1952). Here the question was whether variance in consumption of ice cream could be accounted for by variance in response on a particular dimension of the test. If the correlation exists this is presumptive evidence that the language system is being used appropriately vis-à-vis the Blacky Pictures. In this instance it is taken for granted that consumption of ice cream is correctly classified as indicative of oral eroticism. The question is, have responses to Cartoon #1 also been correctly identified. Here, should the correlation fail to materialize, it is not the theory which is in danger, but membership of this particular event in a given class of the theory. Thus, in the Adventures of Blacky, Blum has provided us not only with an excursion through the nether world of psychoanalytic theory, but also with an interesting example of theory and instrument alternately occupying the roles of agent and reagent vis-à-vis each other!

The non-independence of members within a class

The assumption that events belonging to a given class are not independent of each other has far-reaching implications for the interpretive process. It is this assumption, whether or

not stated in the form of a principle, that underlies many of the predictions made from projective material, interviews, and observational material. Frequently it is stated in terms of one of its major implications: that the probability that an event in a given class will occur increases as the number of events already observed in that class increases. Thus the more events we have classified as hostile occurring in the case of a given individual, the more certain we are that when placed in a given situation he will contribute another event belonging to that class. The more "signs" we have of "dependency" the more certain we feel in calling an individual "dependent." The more *F*- responses on the Rorschach, which we might interpret as instances of perceptual distortion, the more instances of perceptual distortion we expect of the individual in his non-Rorschach behavior. These expectations all depend upon the assumption that instances which we label "hostile," "dependent," and "perceptual distortion," are, in each case, not independent of each other, so that with the observation of each instance there is an increment in the probabilities that another and similar instance will be observed under suitable circumstances.²

We find this assumption explicitly stated by Lindzey (1952) in connection with the interpretation of the TAT, when he states as one of the assumptions made in determining revealing portions of stories: "Themes that are recurrent in a series of stories are particularly apt to mirror the impulses and conflicts of the story-teller." Obviously one would not be interested in the frequency of occurrence of themes unless this could be used in some way in the predictive venture we call psychodiagnosis. The non-independence assumption per-

² This assumption is also involved in the so-called "gambler's fallacy," although its implications for the gambler are just the reverse: that as a sequence of occurrences of a particular event (such as heads on a coin, or losses in a game of chance) increases in length, the probability of another event of the same type occurring diminishes. This, of course, could hold true only if the events were not independent of each other.

mits the prediction to be made that x need will manifest itself in the subsequent behavior of an individual to the extent that it has manifested itself in his previously observed behavior. Thus, since—according to the assumption of equivalence of members of a class—we make no distinction between the need as manifested in TAT themes and as manifested in other situations, we may predict the operation (or probability of operation), of a given need or disposition from its frequency of occurrence in a TAT protocol.

There would seem to be some support for this assumption from the vast amount of research in learning theory, whereby it is generally found that the frequency of occurrence of a response increases (or alternatively, its probability of occurrence increases) with increased training and reinforcement. Thus if one wished to predict whether responses A_1 or A_2 would occur on trial $(n + 1)$, and if he did not have available to him the history of reinforcements for each of these responses, his best bet would be to observe the relative frequency of the occurrence of each during the n preceding trials and predict the occurrence of that response which had occurred most frequently in the past. This is precisely what the clinician does, albeit in a looser fashion. His tests, interviews, or other sources of information constitute the " n trials" from which he will make his prediction for the " $(n + 1)$ st trial."

Of course, the language of interpretation does not always sound like the language of the learning theorist. In many instances the pronouncement of the clinician will not sound like a prediction. Frequently, in fact, it sounds more like an indictment! But we should understand that when he says that this man is dependent and that man hostile, this one suffering from unresolved infantile dependency needs and that one overcompensating for feelings of inferiority, he is in each instance making an implicit statement about the future behavior of these hapless individuals. As Sarbin (1941) has pointed out, a diagnostic statement has meaning only when it

has a referent in the future—when it provides a prediction. To call a man dependent is to say that there is a higher probability that in a given situation he will manifest behavior which we will classify as dependent rather than independent. To say that he is compensating for feelings of inferiority is, likewise, to say that we predict the occurrence of more instances of behavior on his part which can be characterized as compensatory for feelings of inferiority than as noncompensatory.

It may be noted that the equivalence assumption and the present one are not entirely independent of each other. Their relationship is an asymmetrical one, whereby an event that satisfied the nonindependence assumption would also satisfy the equivalence assumption, but the equivalence assumption could be satisfied without any implication for the assumption of nonindependence. Recognition of the nature of this relationship is of primary importance in the formulation, design, and interpretation of research, since it means that in some cases the data would have implications for how well both assumptions are satisfied, while in other instances only for how well the equivalence assumption is satisfied.

Research implications. Let us now consider the research implications of the nonindependence assumption. We might note at the outset that this assumption, like the equivalence assumption, 'is theoretically neutral. We find it reflected in interpretations made from the most diverse points of view. However, unlike the equivalence assumption, which was dependent to a certain extent upon theory for hypotheses that would provide the tests for the legitimacy of assignment of events to a given class, the assumption of nonindependence requires no such theoretical substrate for its testing. Theory again provides the language or classes to which events are assigned, but that is all. To determine whether the assumption has been satisfied, we proceed in a straightforward empirical fashion.

The form which research here takes may be schematically illustrated by the following list of steps, which begin with the establishment of a class or term of the language:

1. Establishment of a class k , with criteria for membership in it.
2. For each of N individuals, the assignment of $(n - x)$ events occurring in situations s_1, s_2, \dots, s_n , to this class k where x represents those events observed which do not meet the membership criteria.
3. For each of the above N individuals then placed in situation s_{n+1} , the observation of the frequency of occurrence or nonoccurrence of an event e meeting criteria for membership in class k .
4. The correlation over N cases of $(n - x)$ with the frequency of occurrence or nonoccurrence of e .

Where the obtained correlation is statistically significant it may be asserted that the assignment of events to the class in question has been such as to satisfy the nonindependence assumption. Where the correlation fails to reach significance this may imply one of two things: (a) That although the criteria are applied correctly, the events classified by them simply do not form a class which satisfies the nonindependence assumption, or, (b) that the criteria have been incorrectly applied so that the number of events assigned to the class for each individual is incorrect. In the latter instance further explication of the criteria is all that is called for, while in the former, a re-evaluation of the language system would seem indicated.

Deciding between these two alternatives is not an easy matter and is not wisely done on the basis of a single investigation. To a large extent, the decision must be based on a review of the findings utilizing a given language system in a large number of studies. Where the weight of the evidence is positive this would suggest that in a particular study such as

that outlined above where negative findings occurred it was the application of the criterion which was at fault rather than the language system. If the results of a given study should be another in a long series yielding negative results, it would seem time to call into question the utility of the language system. Unfortunately, in choosing between these alternatives, there are no statistical guideposts as there are in hypothesis testing. In the final analysis, the temperament of the individual researcher undoubtedly has some influence—indeterminate, but nonetheless there—on his treatment of negative results.

In stating that the nonindependence assumption implies that the probability of observing the occurrence of an event belonging to a given class is an increasing function of the number of events already belonging to that class, we have said nothing about the nature of this function. And it is to this that much basic research must eventually be devoted. The problems here are exceedingly complex, although they have been for the most part ignored. It is quite likely that one reason they have not been given their due is that interpretive systems, such as they are, have not been concerned with the basic logic of the process, but more with the particular theoretical language and the rules for its use.

There are two interrelated problems here. The first is that given a number of events all fitting the criterion for membership in a particular class, they may vary in their potency as contributors to the probability that the next event observed will also belong to that class. For example, given a mildly derisive comment upon someone's ability and an instance of physical assault, it seems reasonable that the pugnacious individual would be more likely, on the next occasion where aggressive behavior is a possibility, to exhibit such behavior than the derisive commentator, other things being equal. The theoretical and research problem here is the development of a

system of weighting events for what might be termed their "incremental probability implication."

No system has explicitly addressed itself to the problem of the differential incremental probability implications of events falling within the realm of discourse by that system, but we might point to one case as an illustration of what might be considered a limited attempt in this direction. This is the work by Watkins and Stauffacher (1952) and those following them (Powers & Hamlin, 1955) in the development of a measure of deviant verbalization for the Rorschach. Beginning with Rapaport's (1946) listing of illustrations of deviant thinking on the Rorschach, Watkins and Stauffacher developed a system of weighting such instances so that the "more deviant" instances were given higher weights, and so that by summing all the weighted instances of deviant verbalization in a given protocol one obtained a "delta score." This score has been found (Watkins & Stauffacher, 1952; Powers & Hamlin, 1955) to vary with the judged severity of psychopathology.

Interpreted within the present framework, the delta score represents in essence an estimate of the probability that the next verbalization of a given individual will also be classed as deviant. That this score has been found to vary with judged psychopathology argues for the validity of this means of estimation and also possibly for the weight given to deviant verbalization in judging severity of psychopathology. But this work is limited in two ways. The first is that the delta weights for each type of deviant verbalization were arrived at in an a priori fashion, and the second is that the system is fairly well restricted to the verbalization which occurs in the Rorschach testing situation.

While the positive results obtained thus far testify to the good judgment of Watkins and Stauffacher in their assignment of weights, it is highly unlikely that their system contains the optimum weighting of the events they are concerned with. Ultimately, some refinement, empirically based, must be made.

That the deviant verbalization scoring system is restricted to the Rorschach testing situation may represent a temporary limitation. If deviant verbalization represents a psychologically meaningful classification, then it should be possible to extend the Watkins and Stauffacher system ultimately to the entire gamut of situations involving verbal behavior. This, in a sense, is analogous to the concept of validity generalization in psychometrics. Such an attempt at extension is necessary in the final analysis to answer the question of the range of applicability of the concept.

It may be possible to solve the problem of weighting so that each event may be given a score reflecting its incremental probability implication when considered in isolation, but this still poses problems concerning the shape of the curve relating the number of such events to the probability that the next event will also be similarly classified. This constitutes the second problem, namely, the possible interactions between events as they begin to accumulate. Such interactions may affect the probabilities and this effect may vary from class to class.

It is entirely possible that at different stages in the accumulation of events in a class, the addition of another event of a given incremental probability implication affects the total probability differently. In effect, what this means is that while we have spoken of events as possibly differing in their incremental probability implications (implying that these could be ascertained for each event), it is quite likely that these implications are modified by the point in event-accumulation where the new event occurs. Thus it becomes impossible to derive the probability of the occurrence of an event of a given class simply from a knowledge of the incremental probability implications of each of the events already belonging to the class; it becomes necessary to also know the influence of sheer number of events as well as the serial nature of the events. Knowing this, however, it should

be possible to plot the curve relating number of events in a class to the probability of observing the occurrence of another event belonging to that class. We might refer to such a curve as an "event-occurrence probability function."

That the shape of event-occurrence probability functions may vary from one class of behavior to another poses yet another problem in this area. Broadly speaking, there are some classes of events which are socially acceptable, condoned, fought-for, and encouraged, while there are other classes for which the opposite is true. It would seem reasonable that such factors would play a significant role in determining the shapes of event-occurrence probability functions. There are, of course, other ways in which classes of events also differ, and a thorough program of research in this area would have to consider each of these in turn for their effects on the shape of the function.

Finally, there is some evidence already accumulating to suggest that the event-occurrence probability function for one class may be affected by that of another class. The most clear-cut evidence for this comes in recent work with the TAT and the relation between hostility and aggression as expressed in the TAT and as expressed overtly. Here, work by Mussen and Naylor (1954), by Purcell (1956), and by Lesser (1957), indicates that expectancy of punishment and the nature of this punishment are important factors determining whether or not the aggression found in the TAT protocol will be predictive of aggression found in nontest situations.

It will have become obvious to the reader by this time that most of the research cited has been concerned with test interpretation. No apology need be offered for this; it simply reflects the rudimentary stage of research and conceptualization in this area. The most highly refined systems of interpretation to date have been constructed in connection with particular tests. It may be that this is where we must start, if for no other reason than that the test provides us with

a somewhat restricted and simplified sample of behavior thereby permitting us to work out some of the problems which any interpretive system dealing with the still more complex events of the nontest situation must ultimately resolve. For it must be recognized that before the kind of research we have been discussing can be carried out, the language system to be used must have reached a fairly high degree of rigor.

The lawfulness of all behavior

This is the third and last assumption which we make in the interpretive process. Although it is the most fundamental of the three, and one not limited to the semantic aspect of interpretation, I have chosen to discuss it last since our major concerns have been with the research implications of our assumptions, and this assumption leads to no particular implication for research other than that it is a meaningful enterprise. For if we did not make this assumption there would be no point in performing any research; the results of any given study would have to be considered fortuitous and no generalizations would be possible. Indeed, if we did not make this assumption there would be no point in engaging in the interpretation of behavior, since it would be impossible to construct any language system having applicability beyond the specific case.

Freud's concept of psychic determinism represents but a special case of this more general assumption, an assumption which, in fact, is one of the foundation stones of the entire scientific enterprise. It should be clear that when the assertion is made that all behavior is motivated, this is an analytic statement, not an empirical one. It says in effect, that we will accept as one of the rules of the game that no behavior is completely fortuitous in its occurrence, that we will always look for an explanation of the behavior in terms

of its antecedents and context of occurrence. The one explanation that is ruled out by this assumption is chance.

It is the assumption of lawfulness that justifies the serious investigation of such diverse forms of behavior as slips of the tongue, dreams, responses to ink blots, handwriting, and interpersonal relationships. Unfortunately, many workers in this area have confused—or at least failed to distinguish between—the assumption of lawfulness of behavior and the question of the *relevance* of the event for the problem at hand. As we pointed out earlier, the assumption of lawfulness is an analytic proposition which states that we will not write off any behavior as pure happenstance. It implies nothing about the relevance of the behavior for any particular problem. The matter of relevance can only be determined empirically.

Thus it becomes possible to accept the assumption of lawfulness of behavior and still write off some behavior as unworthy of our interest if we have reason to believe that this behavior is irrelevant for our purposes. It also becomes possible to rank-order behaviors in terms of their probability of relevance for our purposes. Therefore, while we may agree, for example, that behavior in a Rorschach testing situation, a TAT testing situation, a role-playing situation, and a parent-child interaction situation is all lawful we may see these as varying in their relevance for our treatment of a patient complaining of feelings of inadequacy as a parent. In this particular instance, from our knowledge and theory regarding stimulus generalization gradients, we would have some basis for ranking these behaviors for relevance, probably in the order in which they have just been presented, from least to most relevant. Of course, it becomes necessary to determine whether this ranking is correct in this particular case. But rather than making this determination for each case, an obviously inexpedient procedure, we would rely upon research findings in connection with similar cases.